

WHAT IS CLAIMED IS:

1. A semiconductor device having a capacitor including a pair of electrodes insulated from each other, comprising:
 - a first conductive layer;
 - an insulation layer formed on said first conductive layer and having a hole reaching said first conductive layer, wherein
 - 5 said hole has a first portion and a second portion having diameters different from each other, the diameter of said hole discontinuously changes at a boundary between said first portion and said second portion; and
 - one electrode of said capacitor formed along an inner wall surface of 10 said hole and electrically connected to said first conductive layer.
2. The semiconductor device having a capacitor according to claim 1, wherein
 - 5 said insulation layer has a first insulation layer and a second insulation layer formed on said first insulation layer,
 - 10 said first portion of said hole is formed in said first insulation layer, and
 - 15 said second portion of said hole is formed in said second insulation layer and has a diameter larger than a diameter of said first portion.
3. The semiconductor device having a capacitor according to claim 1, further comprising
 - 5 a second conductive layer located between said first conductive layer and said one electrode and electrically connected to both of said first conductive layer and said one electrode.
4. The semiconductor device having a capacitor according to claim 1, wherein
 - 5 said first conductive layer has a concave portion connecting to said hole, and said one electrode is formed along an inner wall surface of said concave portion.